

I. Identify the number of sig figs in the following numbers. (0.5 points each)

A. 0.00430 3 B. 3050.0 5 C. 165820 5 D. 1820. 4

II. Perform the following calculations and report your answers to the correct number of sig figs (2 points each)

A. $2.2 + 6.85 + 120 = 129.05$ B. $(6.2 \times 10^5)(1.4 \times 10^7) = 8.68 \times 10^{12}$

Ans: 130

Ans: 8.7×10^{12}

C. $(1.8 \times 10^2) \div (3.6 \times 10^{-8})$

C. $23.98 - (5.6 \times 10^{-2}) = 23.924$

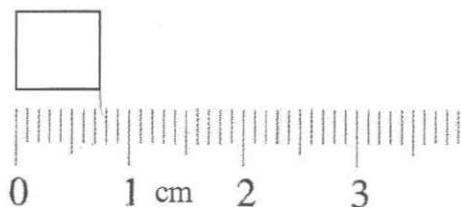
$0.5 \times 10^{10} \rightarrow 5 \times 10^9$

Ans: 5.0×10^9

Ans: 23.9

III. Bonus. Based on the information provided, solve for the missing variable. Show all work and report your answer with the correct number of sig figs.

The density of aluminum is 2.70g/ml. One side of a cube of aluminum was traced on to this paper, using the ruler beneath the drawing, determine the length of one side, calculate the volume of the cube and using the density, determine the mass of the cube.



$$D = \frac{M}{V} \quad M = DV$$

$$\frac{2.70 \text{ g}}{\text{mL}} \times \frac{(7.4 \text{ cm} \times 7.4 \text{ cm} \times 7.4 \text{ cm})}{1} \times \frac{1 \text{ mL}}{1 \text{ cm}^3} = 1094.1048 \text{ g}$$

Ans: 1100 g

Extra
problem:

$$\frac{18.63 - 0.04}{6.4} = \frac{18.59}{6.4} = 2.9046875 = \boxed{2.9}$$